

## NEW SPECIES OF CROTON L. FROM NEW GUINEA

LEON CROIZAT

THIS is the first of a proposed series of papers on the Euphorbiaceae of New Guinea prepared in connection with a study of various other Malaysian species of *Croton*. The paper is based essentially on material collected by Mr. L. J. Brass, botanist on the three expeditions to New Guinea under the sponsorship and leadership of Mr. Richard Archbold of New York. References are included to other collections from New Guinea and neighboring islands that have been assembled at the Arnold Arboretum in recent years. All specimens are deposited in the herbarium of the Arnold Arboretum of Harvard University.

**Croton morobensis** sp. nov.

Arbor ad 15 m. alta. Innovationibus inflorescentiisque stellato-tomentosis citius glabrescentibus, indumento sordide ochraceo. Foliis ovatis vel elliptico-ovatis, apice breviter acuminatis basi rotundatis, 20–10 cm. longis, 10–7.5 cm. latis, in sicco brunneis, supra nitidis vel subnitidis, subtus indumento stellato persistente dissite tomentellis, margine repando-serratis, dentibus plus minusve glandulosis fere alterna vice majoribus minoribusque ad 3 per 1 cm. longitudinis; nervis primariis utrinque ca. 10-jugis, gracilibus, anastomosantibus valde obscuris; petiolo 1.5–5 cm. longo, sordide tomentoso, apice glandulis 2 posticis patelliformibus sessilibus ornato. Inflorescentia spicata, simplici, [videtur] 2-sexuali. Floribus ♂ haud visis. Floribus ♀ fructu delapso tantum lustratis: perianthio ad 5 mm. lato, pedicello ad 2–3 mm. longo, extus tomentello vel glabrato, lobis integerrimis, late triangularibus, ca. 2 mm. longis, petalis videtur nullis, disci glandulis 5 sat validis discretis; columella gracili, 4–5 mm. longa; coccis maturis levioribus, indumento stellato dissito, ad 8 mm. longis; semine ambitu fere tetragono, i.e., costis omnibus dorsali praesertim validis, obscure grosseque ruguloso brunneo, caruncula minima elongata cum hilo contigua, ca. 4–5 mm. longo, 4 mm. lato.

NORTHEASTERN NEW GUINEA: Morobe District, Lae, *M. S. Clemens* 10464.

I cannot place this new species. It is certainly not related with the group of *C. Verreauxii* Baill. (Sect. *Gymnocroton* Baill.) and very doubtfully with that of *C. argyratus* Blume. It might not be too far from *C. Wassi-Kussae* Croiz. but the material now available is inadequate for a systematic disposition.

**Croton Brassii** sp. nov.

Arbuscula ad 6 m. alta. Innovationibus inflorescentiisque indumento crustaceo-lepidoto pallide aureis, serius glabratis. Foliis ellipticis, fere utrinque aequo jure acuminatis, apice interdum mucronatis, 8–4 cm. longis, 3–1.75 cm. latis, firme chartaceis, supra nigro-olivaceis vel brunneis, subtus indumento continuo discolori-aureis, margine integris, costa supra profun-

dius canaliculata subtus prominula, nervis obscuris utrinque ca. 6-jugis, jugo majore sub apice anastomosato saepe jugum minorem vel nervum solitarium amplectente, quapropter nervis totis in latere laminae quolibet ad 12-15, supra haud perspicuis; petiolo canaliculato, pallide aurato, 1-2.5 cm. longo, apice glandulis 2 subsessilibus anticis in laminae origine obsito. Inflorescentiis spicatis, 1- vel 2-sexualibus. Floribus ♂ : alabastro ca. 3 mm. magno, pedicello ca. 4-5 mm. longo, lobis triangulari-ovatis, 2.5 mm. longis, 1.5 mm. latis, petalis ovato-quadrangularibus ca. 2 mm. magnis, staminibus ca. 15, basi pilosis, extus serie staminodiorum circumdatis. Floribus ♀ : perianthio longius cyathiformi ca. 5-6 mm. longo, 5 mm. lato, lobis 5 triangularibus, 4 mm. longis, 1.75-2.5 mm. latis, acutis, erectis, apice subcallosis, basi extus per costulas in perianthium confluentibus, petalis quam lobis majoribus, late ovatis, 3.5 mm. longis 3 mm. latis, hic inde pilis stellatis obsitis, glandulis 5 sat magnis; ovario toto lepidoto, indumento secedibili, ad 3 mm. magno, stylis 3 ad basim liberis, quove in basim obtriangularem [2 mm. longam, 1.5 mm. latam] dilatatum dein in 3 lobis digitatis ad 2.5-3 mm. longis partito.

NETHERLANDS NEW GUINEA: 15 km. SW. of Bernhard Camp, Idenburg River, *Brass 12061*, January 1939, frequent in secondary mossy forest at 1800 m. slender tree 6 m. high.

A strong species suggesting in its gross morphology two very critical species, *C. metallicus* Seem., of the Fiji Islands, and *C. insularis* Baill. of New Caledonia and Eastern Australia, but altogether unlike them in floral characters.

***Croton Luciae* sp. nov.**

Arbor ad 21 m. alta. Innovationibus inflorescentiisque pube hispidula stellato-tomentosa velutinosus vel subpannosus, olivaceis vel sordide ochraceis, trichomatibus sub lente nempe glandulis commixtis [an revera succo indurato nigricante e hydatodiis minimis effuso?]. Foliis ambitu valde ludentibus, vulgo ellipticis, apice basique plus minusve acutatis vel cuneatis, interdum obovatis, basi truncatis, 15-8 cm. longis, 10-3 cm. latis, firme chartaceis vel subcoriaceis, supra brunneis, valde opacis, trichomatibus minutis persistentibus valde dissitis subruvidis, subtus indumento eadem ratione at confertiore sordide ochraceis tomentosus, nervis primariis patentibus, apice dichotomis, vix anastomosatis, ca. 8-10-jugis, supra gracillimis subtus plus minusve manifestis, margine primo intuitu integro sub lente repandulo-serrato, serraturis glandulosis; petiolo herbaceo canaliculato tomentoso, 2-9 cm. longo, apice glandulis 2 posticis crateriformibus stipitatis vel subsessilibus ornato. Inflorescentia spicata 1- vel 2-sexuali ad 20-25 cm. longa, sat valida. Floribus ♂ : perianthio ca. 8 mm. lato, 7 mm. longo, lobis grosse lepidoto-stellatis, extus ad basim hirtellis, 2 mm. longis, 3 mm. latis; petalis ovatis 3.5 mm. longis, ca. 3 mm. latis; staminibus ca. 15, [videtur] cum staminodiis commixtis, filamento ca. 3 mm. longo, basi incrassato lanuloso. Floribus ♀ : perianthio ca. 10-12 mm. lato, 5-6 mm. longo, pedicello sat valido ca. 5-7 mm. longo, lobis triangulari-ovatis, cucullatis, ca. 3 mm. longis, totidem latis, basi glandula valida quove insignito, petalis ligulato-setaceis ca. 3 mm. longis ciliatis longius lanulosis; ovario depresso 5 mm. lato, 3 mm. longo, grosse tomentoso, ochraceo, stylis 3 more proprio ut sequitur cruciformibus; styli cujusvis parte basali 1.5 mm. longa integra, apice in ramulos 3-partita, ramulorum lateralium

[ scilicet, crucis brachiorum ] quove 1.5 mm. longo, ramulo apicali [ scilicet, crucis capite ] 2.5 mm. longo, ramulis omnibus totisque canaliculatis.

NETHERLANDS NEW GUINEA: Bele River, 18 km. N.E. of Lake Habbema, 2200 m. camp, *Brass & Versteegh 11121*, Nov. 1938, common substage tree of primary forest, 21 m. high, 29 cm. diameter; bark 6 mm. thick, fairly rough, with an odor; wood white; fls. yellow-green; fruit brown.

This outstanding new species has certain affinities with the Australian group of *C. arnhemicus* Muell.-Arg., and with *C. Boutonianus* Muell.-Arg. of the Island of Mauritius. Among the South American species, it somewhat suggests *C. piptocalyx* Muell.-Arg. and *C. celtidifolius* Baillon. This is apparently one of the archetypes of *Croton*, as it represents a biotype with almost complete pantropic distribution. I dedicate this species to my wife, deriving the specific epithet from her Christian name, in acknowledgment of her continuous assistance in my work.

***Croton philombros* sp. nov.**

Arbuscula. Innovationibus inflorescentiisque parcius lepidotis vel glabris. Foliis alternatis, lanceolatis vel elliptico-lanceolatis, apice plus minusve breviter acuminatis, interdum subfalcatis, basi rotundatis, firme chartaceis, in sicco pallide brunneis, vix evolutis parcius lepidotis, adultioribus citissime glabris, margine sub lente repandulo-serrato, nervis primariis delicatis ca. 10-12-jugis, late adscendentibus, gracillime anastomosatis; petiolo gracili 1.5-3.5 cm. longo, parcius tomentello-lepidoto, apice glandulis 2 posticis late patelliformibus subsessilibus ornato. Inflorescentia terminali spicata, 2-sexuali. Floribus ♂: perianthio 4-5 mm. lato, pedicello gracili 3-4 mm. longo, lobis late ovatis, petalis obovato-spathulatis magnitudine lobos aequantibus, ca. 2 mm. longis, 1.5 mm. latis, staminibus ca. 10, 3 mm. longis. Floribus ♀: perianthio ca. 4 mm. longo, 3 mm. lato, pedicello 1.5-2 mm. longo, lobis 5 imbricativis ca. 3.5 mm. longis 1.5 mm. latis, pellucido-punctatis, ramose venosis, basi glandula quove aucto, petalis nullis; ovario globoso, 1.5 mm. magno, albicante, stellato- vel lepidoto-tomentoso, stylis 3 liberis, quove 1.5-2 mm. integro dein 1.5 mm. partito.

BRITISH NEW GUINEA: Western Division, Penzara, between the Morehead and the Wassi Kussa Rivers, *Brass 8455A* (holotype), December 1936, tree 4-6 m., rain-forest along creeks; same locality, *Brass 8440*, December 1936, creek fringing rain forest, compact tree 10 m.

Despite its having smaller ♀ flowers, *Brass 624*, collected in 1925 at Biriatabu, British New Guinea, and described as a compact tree in rain-forest, may also belong here.

*Croton philombros* is a species of Sect. *Gymnocroton* Baill., typified by *C. Verreauxii* Baill., which is endemic to Australia. Different authors have credited *C. Verreauxii* to various regions of Australasia including New Guinea, but their concept of the limits of Baillon's species is apparently so uncertain that I am not ready to accept their records before critically studying their specimens. Section *Gymnocroton* ranges from India to the Fiji Islands and consists of biotypes which are remarkably uniform in vegetative parts and gross floral morphology. These biotypes can be separated specifically only on the strength of intangibles and sums of minor characters. *Croton philombros* differs from authentic Australian material of *C. Ver-*

*reauxii* in the characters of the ♀ calyx and in certain intangibles of the foliage. Schumann described two species from New Guinea, *C. choristadenia* [sic] (Nachtr. Fl. Deutsch. Schutzgeb. Südsee 295. 1905) and *C. enantiophyllus* (op. cit., 296), stating that both have opposite leaves but that the latter has stigmas and foliage unlike *C. choristadenia* and 1-sexual inflorescences. It is exceedingly difficult, if at all possible, to form an opinion of Schumann's species from the descriptions, and I am by no means certain that his two binomials actually represent distinct entities. It is unlikely that either species has opposite leaves such as described by Schumann, because a phyllotaxy of this kind is found in *Croton* only as an exception, that is, on shoots on which the foliage is verticillate or subverticillate, suggesting to a casual observer that the leaves may be opposite. Taking Schumann's descriptions at their face-value I suspect that his species belong to Sect. *Gymnocroton*, but I have seen no material from New Guinea that I can refer to either.

***Croton mallotophyllus* sp. nov.**

Arbuscula ad 8 m. alta. Innovationibus inflorescentiisque pube stellata longe hirta primum tomentellis, serius glabratis, pallide ochraceis. Foliis optime ellipticis, apice breviter acuminatis, basi rotundatis subtruncatisve, levissime auriculatis, 23–9 cm. longis, 8–3 cm. latis, tenuiter chartaceis, in sicco utrinque viridibus, margine sub lente crenato-repandulis, crena qualibet glandula aucta, crenis ipsis ad 4 per 1 cm. longitudinis, nervis primariis ca. 10–14-jugis, gracilibus, sat procul a margine anastomosatis, nervo medio validiore, supra glabris, subtus pube minuta dissita tomentellis, petiolo ca. 5 cm. longo, hispido-tomentoso, apice glandulis 2 posticis sessilibus ornato. Inflorescentia simplici, spicata. Floribus ♂ ignotis. Floribus ♀: perianthio hispido tomentello pallide luteo, ca. 3 mm. magno, petalis nullis, lobis 5 late ovatis hyalinis, ad 2 mm. longis, 1–1.25 mm. latis, medio tenuissime nervosis hic inde [videtur] ceraceo-glandulosis, dorso hispido-tomentellis, apice indumento confertiore, glandulis [videtur] in torum continuum cyathiformem sub ovario connatis; ovario ca. 2 mm. magno, rotundato, apice breviter libero, hispidulo, pallide lutescente, stylis 3 fere ad basim partitis, ad 2 mm. longis, quove primum integro, dein ad tertia duo supera partito, taeniato-applanato, epapilloso, nigricante.

NETHERLANDS NEW GUINEA: Nabire, *Kanehira & Hatusima 11523*, November 1940, sea level, in rain-forest, plant 8 m. high.

A strong species, unlike all others that I have so far seen from New Guinea, with a foliage somewhat reminiscent of that of *Mallotus Moritzianus* Muell.-Arg. To all appearances also belongs here *Kanehira & Hatusima 11443*, a sterile specimen collected at the same locality and at the same time as the holotype. *Croton mallotophyllus* is reminiscent of one of my species, *C. Merrillianus*, from Hainan, but this has larger ♀ flowers. It is possible that both belong to the same section.

***Croton pilargyros* sp. nov.**

Arbuscula. Innovationibus inflorescentiisque totis cinereo-tomentellis, sub lente hispidulis, demum glabrescentibus. Foliis late ovatis vel ovatis, apice abrupte acuminatis vel apiculatis, basi rotundatis subpeltatisve, 18–9

cm. longis, 14-6 cm. latis, primum indumento facillime detergibili totis griseo-tomentellis vel floccoso-tomentellis, demum supra glabris, saturate brunneis, subtus griseo-tomentellis, more *C. argyrati* formarum subnitidis revera haud argenteo-lepidotis, margine erosulis, subintegris, nervis primariis ca. 6-8-jugis patentius adscendentibus, primo jugo ramoso, anastomosibus delicatis at conspicuis; petiolo herbaceo, tomentello, 3-10 cm. longo, glandulis posticis 2 sessilibus insignito. Inflorescentia spicata, ad 20 cm. longa, bisexuali. Floribus ♂ glomerulatis: perianthio ca. 5-6 mm. lato, pedicello 6-7 mm. longo, lobis petalisque similibus, ca. 2 mm. longis ac latis, glandula [videtur] basi auctis, staminibus ca. 12, filamentis ca. 4 mm. longis, toro lanuloso. Floribus ♀ [videtur] singulis: perianthio ca. 4 mm. longo, 6-7 mm. lato, pedicello 3 mm. longo, lobis 3 mm. longis, 2 mm. latis, ligulatis, apice rotundatis, intus indumento subtili deciduo leviter pubescentibus, extus cum perianthii basi tomentosis, glandulis 5 sat magnis ambitu hispido-tomentosis; ovario globoso 2 mm. magno, griseo-tomentoso, stylis 3, ad basim brevissime connatis, supra liberis, quove primo 1 mm. integro, dein 3 mm. partito, nigricante.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8062, October 1936, small substage tree on dry ridges in rain forest.

*Croton pilargyros* differs from *C. argyratus* Bl., which it very closely resembles in the vegetative characters, in range and in certain details of the flowers, as for instance the length and degree of pubescence of the lobes of the ♀ perianth and the size and pubescence of the glands under the ovary. It is probable that more substantial differences will be revealed when it will be possible to study the fruit, as in the forms of this affinity small variations in the ♀ flower usually prelude to the later evolution of patently unlike capsules and seeds.

It is worth noticing that the species of *Croton* in Malaysia and Australasia fall into few major aggregates, often as many as six to ten species resembling each other so closely in vegetative characters as to prove indistinguishable at first sight. A careful study of the ♀ flower and fruit reveals the specific characters, which are usually far from negligible and consist of differences in the shape and size of the lobes of the ♀ perianth, in the size of the capsule, in the sculpture of the seed, in the presence or absence of petals and the like. It is worth noticing, furthermore, that the species of *Croton* which differ in floral characters but not in foliage are endemic in regions which are known not to have undergone important climatic changes since the Tertiary's inception, such as Australasia. It may thus be tentatively inferred that there is present in the genus a tendency towards the evolution of the ♀ sexual organs which is active regardless of climatic influences. This tendency closely parallels that of the Euphorbiaceae as a whole, in which the floral structures constantly evolve in the direction of apetaly and unisexuality. Far reaching patterns of speciation, involving both floral organs and gross morphology, are apparent, on the other hand, in groups of species (for instance, *C. punctatus* Jacq., *C. texensis* Muell.-Arg. and *C. californicus* Muell.-Arg., endemic as a whole from Venezuela to California) found in regions that have experienced marked climatic vicissitudes in geological times.

**Croton pusilliflorus** sp. nov.

Arbor parva. Innovationibus inflorescentiisque dissite furfuraceo-tomentellis, trichomatibus stellato-pannosis, citissime glabris, cortice adultiore griseo rimoso. Foliis ovato-ellipticis vel ellipticis, apice plus minusve breviter acuminatis, basi rotundato-cuneatis, 14–6 cm. longis, 5–2 cm. latis, in sicco brunneis, tenellis aequae ac adultis glabris, chartaceis, margine primo intuito vulgo haud profunde serratis, serraturis ad 3–5 per cm. longitudinis, dentibus callosis, venis primariis ca. 7-jugis patentius adscendentibus, anastomosibus delicatis interdum duplicatis; petiolo vulgo nec ultra 3 cm. longo, canaliculato, glandulis 2 subposticis apice insignito. Inflorescentia spicata, [videtur] 10–12 cm. longa. Floribus ♂ ignotis. Floribus ♀: perianthio ca. 2 mm. magno, pedicello brevi, vix ad 2 mm. etiam sub fructu longo, lobis ovatis apice callosis crassiusculis, ad 2 mm. longis et 1.25 mm. latis, quove glandula basali aucto; ovario lepidoto-tomentello, albicante ca. 1.25 mm. magno, stylis 3 fere ad basim liberis, quove primum integro dein partito, vix 1.5 mm. longis; coccis delapsis delicatis, 5–6 mm. longis, epicarpio secedibili brunneo sublevi, trichomatibus glandulosis dissitis parcius obsito, columella valde gracili ad 5–6 mm. longa, semine brunneo scaraboideo ad 5 mm. longo et 4 mm. lato, in lateribus subcostulato, caruncula fere nulla, arillo hic inde sub lente maculato, testa sub lente acri vix granulato-striata.

BRITISH NEW GUINEA: Palmer River, below the junction with the Black River, *Brass* 7226, July 1936, substage tree 12 m. high, in gullies on the higher ridges, alt. 100 m.

Suggesting *C. cassinoides* Lam. of Madagascar in its vegetative characters. The small ♀ perianth, with a very short peduncle even in the fruit-stage, is characteristic.

**Croton semunculus** sp. nov.

Arbuscula. Innovationibus inflorescentiisque primum leviter stellato-tomentosis, mox glabratis glabrisve, cortice adultiori striato griseo. Foliis late ellipticis vel ovato-ellipticis, 12–4 cm. longis, 6–3 cm. latis, basi rotundatis, interdum rotundato-truncatis, subcordatis, apice abrupte breviter acuminatis, glaberrimis, in sicco brunneis, firme chartaceis vel [videtur] tenuiter subcoriaceis, margine obscure repando-denticulatis, nervis primariis ca. 10-jugis, late patentibus, anastomosantibus valde delicatis; petiolo longitudine ludente, 1–3 cm. longo, obscurius canaliculato, apice glandulis 2 posticis sat magnis sessilibus patelliformibus ornato. Inflorescentia subspicata apicali. Floribus ♂: perianthio ca. 3 mm. magno, pedicello 3–4 mm. longo, staminibus ca. 12, filamentis ca. 3 mm. longo, lobis ovatis, nervosis, ciliatis ca. 1 mm. longis latisque, basi glandula parva [videtur] auctis, petalis ligulatis 1.5 mm. longis et 1 mm. latis. Floribus ♀: perianthio ca. 2 mm. magno, pedicello 0.75–1.5 mm. longo, lobis triangularibus apice acutatis, carnosulis, basi glandula elongata auctis, petalis setaceis magnitudine ludentibus, ovario globuloso ca. 1.75 mm. magno, luteo-tomentoso, columella 3 mm. longa, gracili, semine badio maculis pallidis perspicuis hic inde notato, levissime costulato, vix longiore quam lato, 3 mm. longo, 2.5 mm. lato.

BRITISH NEW GUINEA: Central Division, Nakeo District, Baroka, *Brass* 3770, April 1933, common in rain-forest, tree 8–10 m.; fruit dry, 8 mm. long.

All the differences I can find between this new species and *C. pusilliflorus*

are the size and mottling of the seed and the presence of petals in the ♀ flower. The size and mottlings of the seed may or may not have specific significance in this exceedingly difficult group and the presence or absence of petals may or may not be relevant depending upon the persistency of the character. Better material will ultimately decide whether *C. pusilliflorus* and *C. semunculus* are distinct species, varieties of the same species or straight synonyms.

**Croton Ysabelae** sp. nov.

Arbuscula. Innovationibus inflorescentiisque primum dissite argillaceo-stellatis dein glabris, cortice vetustiore pallide ochraceo vel griseo. Foliis alternatis, late ellipticis, apice breviter acuminatis, basi cuneatis vel cuneato-rotundatis, 12–7 cm. longis, 5–3 cm. latis, chartaceis, in sicco brunneis, trichomatibus paucissimis subtus persistentibus exceptis glabris, margine primo intuito subintegro cautius lustrato obscure repandulo-serrulato vel serrato, nervis primariis 6–8-jugis, late patentibus anastomosibus inconspicuis; petiolo dissite stellato-tomentoso, 1–3 cm. longo, glandulis 2 patelliformibus sessilibus apice utrinque insignito. Inflorescentia graciliori, longe spicata ad 20 cm. longa. Floribus ♂: perianthio ca. 2.5 mm. magno, staminibus ca. 10, petalis ligulatis. Floribus ♀: perianthio dissite tomentello, ca. 2 mm. longo, 3 mm. lato, pedicello ca. 1.5–2 mm. longo, lobis vulgo 5, interdum 7 triangularibus, 1.5 mm. longis, 0.75 mm. latis, basi glandula auctis, ovario obscure trigono, globuloso-depresso, 2 mm. crasso, 1 mm. longo, tomentello, stylis 3 habitu recurvis ad basim liberis, quove ca. 1 mm. integro, dein 1.5–2 mm. partito.

SOLOMON ISLANDS: Ysabel Island: Tataba, Brass 3440, May 1933, rain-forest, a small tree, common.

Had this material been collected in Basilan, in the Philippines, it would be difficult to separate it from *C. basilanensis* Croiz. (*Tacson* 24949, 1915), a species in the vicinity of *C. consanguineus* Muell.-Arg. Brass 3440 cannot be referred to *C. Verreauxii* Baill., from which it is distinguished by many intangibles of floral and vegetative parts. Its leaves are not opposite, nor even characteristically whorled, and so it is not likely to prove to be the same as *C. choristadenia* K. Schum. or *C. enantiophyllus* K. Schum., as I interpret these from the descriptions. The ♀ flower is quite small.

**Croton Wassi-Kussae** sp. nov.

Arbuscula. Innovationibus inflorescentiisque pube furfuraceo-lepidota cupreo-brunnea incrustatis, serius glabratis. Foliis 15–8 cm. longis, 9–4 cm. latis, ovato-ellipticis vel ovatis, apice acuminatis vel cuspidato-acuminatis, basi rotundatis vel rotundato-cordatis, supra in sicco brunneis, lepidibus sparsis valde persistentibus sub lente acri nempe foveolato-punctatis, subtus lepidibus valde furfuraceis subcontiguus more proprio, indutis, brunneo-cupreatis, firme chartaceis vel subcoriaceis, margine subintegris repandulis, nervis primariis ca. 6–8-jugis late adscendentibus apice saepius ramosis, anastomosantibus obscuris, petiolo 2–5 cm. longo furfuraceo vel lepidoto-tomentello, apice glandulis 2 patelliformibus sessilibus in sinu laminae [=cordatione] sitis ornato. Inflorescentia spicata, 2-sexuali, ad 10–11 cm. longa, axillari terminalique. Floribus ♂: perianthio ca. 6 mm. lato, pedicello ca. 2 mm. longo, lobis ovato-ellipticis ca. 2 mm. longis et

1.5 mm. latis, basi [videtur] glandula acutis, petalis ligulatis ad 3 mm. longis, 0.75–1 mm. latis, staminibus ca. 10, filamentis gracilibus 3–4 mm. longis. Floribus ♂: perianthio 4 mm. lato, 2.5–3 mm. longo, lobis sat crassis, furfuraceo-tomentosis, ca. 2 mm. longis latisque, basi glandula sat magna auctis, margine leviter reduplicativis [scilicet, labiato-subplicatis], petalis nullis; ovario grosse lepidoto-tomentello haud hispido, globuloso-depresso, ca. 3 mm. lato et 2 mm. longo, stylis 3 ad basim liberis, quolibet primum 1 mm. integro, demum in cruribus 2 taeniatis 1 mm. longis diviso: semine ambitu fere quadrangulo, costulato vel costato, ca. 3 mm. longo et 3 mm. crasso, caruncula patelliformi vel potius umbonata hilum totum obtegente, chalaza more proprio minima cicatricosa, arillo brunneo ad chalazam praesertim parcius pallide striato, testa levi, calyce fructu delapso ca. 5 mm. lato, lobis discretis saepius dorso impresso-costatis, pedicello ad 5 mm. longo, columella ad 4 mm. longa.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass 8178* (HOLOTYPE), October 1936, undershrub tree 5 m. high, inland dry ridges of rain-forest; Western Division, Tarara, Wassi Kussa River, *Brass 8491A*, December 1936, common in rain-forest undergrowth, tree 4–5 m. high.

A very distinct species with a seed that closely resembles that of *C. pusilliflorus* Croiz. but is more sharply costate on the back and sides. The chocolate color of the undersurface of the leaf is fully as characteristic as the scurfy-scaly indumentum that gives the leaf this color. The base of the leaf is narrowly and sharply cordate, the glands being set at the inner end of the cordation. The perianth-lobes tend to be reduplicative, as they are in numerous species of the genus, but this tendency is as yet barely marked. A very-interesting form, probably related to *C. morobensis* Croiz., but with an altogether different kind of pubescence. Its further affinities are at present unknown.

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